

## IMMUNOMODULATOR DRUGS FOR CHILDREN IN AYURVEDA

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**ABSTRACT**

Ayurveda is one of the oldest system of medicine and includes various pharmacological activities like Immuno-stimulatory, Neuro-stimulatory, Anti-ageing, Antibacterial, Antiviral, Anti rheumatic, Anticancer etc. An entire section of the Materia Medica of Ayurveda is devoted to the „*Rasayana*’, the drugs that enhance the resistance of the body to various conditions. *Rasayana* consists a number of plants reputed to promote physical and mental health, enhance immunity and increase longevity. These attributes are similar to the modern concept of Adaptogenic drugs, which are known to provide protection of human physiological system from various stressors. Ayurveda always consider it better to improve the health condition than to cure the disease emerged, that’s why *Rasayana* gained more limelight in this era of diseases. In the present paper, I am going to discuss about immune modulatory effect of various *Rasayana* drugs that can be used in pediatric age group, so that they can have enhanced quality of life and increased life expectancy.

**KEYWORDS:** Immuno-stimulatory, Materia medica, *Rasayana*, Adaptogenic.**INTRODUCTION**

Immunity is the host’s defence mechanism that comprise of various biological structures and complex biochemical reactions within an organism which protects them against diseases.

From therapeutic point of view, immunomodulation refers to any process in which the immune response is altered (increased or decreased) to a desired level. Thus Immunomodulators are the substances that can stimulate (immunocompromised ones), suppress (hyper-responsive immune system) or modulate any aspect of the immune system. Hence, Immunomodulators are referred to as the biological response modifier improve the host defence mechanism against diseases by striking a balance between regulatory and effector cells. Owing to this quality of biological mediators, various alternative *Ayurvedic* drugs are being studied and used for long-term in various disease conditions especially in Auto-immune disorders and Hypersensitivity reactions.

There are so many medicines in Ayurveda that can be used for immunomodulation. The principle of treatment for children varies from that of adults up to some extent, which excludes some of the drugs from the long list.

In ancient *Ayurvedic* texts, it is mentioned that the medicines used in children should be palatable and milder ones, that too in proper dose. The terms used to describe their properties are – *Madhura* (sweet), *Mridu*

(soft/mild potency), *Laghu* (easily digestible), *Surabhi* (nice smell), *Shita* (cold/soothing), *Shankaram* (harmless). The medicines with above mentioned properties are considered ideal for them. If not that palatable, the medicines can be prepared in different form, so that it becomes more acceptable to them. The factors found in children are same as that of adults i.e. *Dosha*, *Dhatu*, *Mala*, *Sharira bala*, *Ojas*, etc but are present in small quantity, so the dose of medicine must be calculated accordingly. In modern medicine also, the calculation of dose of drugs for children is in strict accordance with their age and weight.

Here in this paper we will have a brief look on some of the easily available potential immunomodulator medicines that can be used especially in children; ex- *Amalaki*, *Haridra*, *Guduchi*, *Tulasi*, *Yashtimadhu*, *Pippali*, *Shatavari*, *Ashwagandha*, *Rason*, *Nimba*, *Triphala*, *Brahmi*, *Shankhapushpi*, *Punarnava*, *Kumari* etc.

The plants with their medicinal properties, active ingredients and specific activities are described as follows:

Name	Rasa	Guna	Virya	Vipaka	Active ingredients	Specific Activity
AMALAKI ( <i>Embllica officinalis</i> )	5-Rasa except Lavana	Guru, Ruksha, Shita	Shita	Madhura	Gallic-acid, Tannic acid, Vitamin C	Rasayana, Immuno-stimulatory
HARIDRA ( <i>Curcuma longa</i> )	Tikta, Katu	Ruksha, Laghu	Ushna	Katu	Curcumin	Immunomodulator, Anti-inflammatory, Anti-oxidant
GUDUCHI ( <i>Tinospora cordifolia</i> )	Tikta, Kashaya	Guru, Snigdha	Ushna	Madhura	Giloin, Barberine, Tinosporic acid	Rasayana, Immunomodulator
TULASI ( <i>Occimum sanctum</i> )	Katu, Tikta	Laghu, Ruksha	Ushna	Katu	Tannin, Carotene, eugenol, cavacrol, ursolic acid derivatives, Flavonoids.	Immunomodulator, Anti-inflammatory Anti-asthmatic
YASHTIMADHU ( <i>Glycerrhiza glabra</i> )	Madhura	Guru, Snigdha	Shita	Madhura	Glycerrhizin, Liquiritin, Flavonoids	Immunomodulator Antioxidant
SHATAVARI ( <i>Asparagus racemosus</i> )	Madhura	Guru, Tikta	Shita Snigdha	Madhura	Saponins, sitosterols, Asparagininis, Curillins	Rasayana, Immunomodulator, Antidepressant
ASHWAGANDHA ( <i>Withania somnifera</i> )	Tikta, katu, madhura	Laghu, Snigdha	Ushna	Madhura	Withanolides	Immunomodulator Anti-oxidant, Anti-inflammatory
BRAHMI ( <i>Centella asiatica</i> )	Tikta (Kashaya anurasa)	Laghu	Shita	Madhura	Triterpenoid saponins, Hydrocotyline, Asiaticoside, Vallerine	Medhya Rasayana, Immunomodulator
SHANKHAPUSHPI ( <i>Convolvulus pluricaulis</i> )	Tikta	Snigdha pichhila	Shita	Madhura	Alkaloids	Medhya Rasayana

## MATERIAL AND METHODS

The information is collected from Google, Medline, various Journals, Articles, Websites, Research papers, Dissertations and Thesis from different Institutes. The Reference and textbooks on pediatrics and neonatology and latest WHO guidelines, Ayurveda samhitas and related texts.

## DISCUSSION

The use of traditional medicines for enhancing immunity and treating various diseases has been approved by WHO. The use of Indian system of medicine becomes more obvious for Anti-ageing (*Rasayana*) properties, Autoimmunity and Hypersensitivity conditions in body, where modern medicine has very little to offer, that too with serious health hazards. Ayurveda has a long range of medicinal plants that can be used in such conditions when chosen correctly and used in long-term.

## CONCLUSION

The use of Allopathic drugs for treating various diseases is preferred over traditional medicinal systems these days. To shift the focus from conventional allopathic drugs to traditional system of medicine, a more comprehensive, systematic and scientific study is required targeting molecular level. This will generate more awareness and acceptance among the Physicians and common people.

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